

## SAFETY TROCAR WITH PROGRESSIVE CUTTING TIP GUARDS AND GAS JET TISSUE DEFLECTOR

### ABSTRACT OF THE DISCLOSURE

A surgical device for endoscopic surgical procedures capable of preventing injuries to  
5 internal organs during insertion. The surgical device can include one or more of the  
following: at least one sharp bladed edge, a mechanical tissue protection device that includes  
a series of thin plastic guards sliding along the sides of the blade edges and having an angle  
between their edges smaller than that of the at least blade edge, one or more fixed conical  
deflectors to expand the cut tissue passage leaving the guards to contact tissue contact only at  
10 their tips, an insufflation passage configured to transport fluid into the body cavity during  
penetration, a locking system for the guards that prevents accidental reuse of the cutting  
features, and/or an ergonomic design which facilitates handling.

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